

Claims

- [c1] 1. An apparatus for damping resonance in a conduit (10) for transporting exhaust gases from an internal combustion engine, which conduit (10) is provided with at least one perforation (14) located at a distance from the outlet end (11) of the conduit and at a point in the conduit (10) with a comparatively lower static pressure than downstream therefrom, the perforation (14) forming an acoustic connection between the interior of the conduit (10) and the surrounding atmosphere.
- [c2] 2. The apparatus as recited in claim 1, wherein the lower static pressure in the vicinity of the perforation (14) is brought about by means of a reduction in the cross section of the conduit.
- [c3] 3. The apparatus as recited in claim 2, wherein the reduction in the cross section of the conduit (14) is designed as a venturi.
- [c4] 4. The apparatus as recited in claim 2, wherein the pipe portion (10a) designed as a venturi is covered on the outside with a sound-absorbing material.

- [c5] 5. The apparatus as recited in claim 4, wherein the sound-absorbing material is covered by a perforated plate (17).
- [c6] 6. The apparatus as recited in claim 1, wherein the lower static pressure in the vicinity of the perforation (14) is brought about by means of a change in direction of the gas flow in the conduit.
- [c7] 7. The apparatus as recited in claim 6, wherein the change in direction of the gas flow is brought about by means of a curve of the conduit.
- [c8] 8. The apparatus as recited in claim 1, wherein the perforations (14) are covered by means of a sound-permeable fabric (20) on the inside or outside of the conduit (10).
- [c9] 9. A method for affecting acoustic attenuation of resonant exhaust noise produced by a combustion engine, said method comprising:
providing a combustion engine with an exhaust conduit having a length that causes a high magnitude resonant acoustic sound to be experienced in the exhaust conduit as the combustion engine passes through an exhaust resonance producing speed range; and
attenuating the magnitude of the high magnitude reso-

nant acoustic sound at an outlet of the exhaust conduit by causing at least a portion of the high magnitude resonant acoustic sound to diffuse outside the exhaust conduit upstream of the outlet.

[c10] 10. The method as recited in claim 9, further comprising: providing at least one aperture along the length of the exhaust conduit and arranging the aperture so that at least a portion of the high magnitude resonant acoustic sound diffuses therethrough.

[c11] 11. The method as recited in claim 10, further comprising:
locating the at least one aperture at a position along the length of the exhaust conduit where a negative pressure is normally developed inside the conduit in comparison to ambient pressure outside the conduit.